



# TECHNICAL DATA SHEET

Revision: October 6, 2022  
Supersedes: September 11, 2020  
Ref. #: 253797, 253795

## WINDOW, DOOR & SIDING

# H2U

## HIGH PERFORMANCE

### DESCRIPTION:

**Description:** OSI® H2U™ Window, Door, Siding and Trim Sealant is a high-quality elastomeric sealant designed for the siding and window industries. This unique acrylic urethane formula has better adhesion, flexibility and durability than most sealants in its class, and cleans up easily with soap and water. This water based, low gassing formula is ideal for use indoors and provides the durability, flexibility and adhesive strength needed for outdoor use. OSI H2U dries to a tough rubber like seal and when fully cured it is paintable and will resist surface mold and mildew.

#### Available As:

Item #	Size	Color
1256934	10.0 fl oz (295 ml) cartridge	White (001)
1256965	10.0 fl oz (295 ml) cartridge	Clear (000)

### FEATURES & BENEFITS:

- Indoor / Outdoor Capabilities
- Excellent Durability: ± 25% Joint Movement Capability
- UV and Water Resistant – will not crack or yellow
- Resists Dust & Dirt Collection
- Easy Water Clean-up
- Paintable when cured\*

*\*Cure time is dependent on temperature, humidity and depth of sealant applied*

### RECOMMENDED FOR:

Developed primarily for sealing around exterior window and door frames, sill plates, electrical and plumbing penetrations and other areas where water and air can infiltrate. This product is ideal for sealing gaps and cracks found on the interior of the home. Works well along baseboards, floors, wall to floor joints, around windows and door frames, ceiling to wall joints and any other crack or gaps found in and around the home. Works well on vinyl, aluminum and fiber cement siding, brick, concrete, metal, all types of wood, drywall, plaster, plastic moldings, tile and most common building materials.

### LIMITATIONS:

- Do not use on joints immersed in water or applications requiring continuous water immersion
- Do not use as a traffic bearing sealant or on log homes
- Do not use exterior when rain or freezing conditions are expected within 24 hours
- Do not use in applications requiring temperature resistance greater than 170°F (77°C)
- Not recommended for sealing expansion joints, including field/butt joints
- Not recommended for use in joints less than ¼" in depth or ¼" wide in order to maintain the integrity of the sealant
- Not recommended on unfinished or unprimed fiber cement (Fiber cement must be primed or have a factory finish before application)
- Not recommended as a nail hole filler or in touch-up applications on prefinished siding materials. Follow prefinished cladding manufacturer's instructions for nail hole filling
- Not recommended for use on mirrors
- Not compatible with polypropylene or polyethylene plastics
- Not compatible with bitumen-based products such as flashing tapes. Damage or color bleed through may occur
- DO NOT TOOL, smear or feather on prefinished colored claddings (i.e. siding, trim) as this will reduce any sealants ability to withstand UV exposure and joint movement, causing premature joint failure and color fading.
- DO NOT encapsulate or use as a seal in between two non-porous substrates such as under shower tracts. Product will not cure





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## COVERAGE

### For a 10 fl. oz. (280 ml) cartridge:

• A 1/4" (6 mm) bead extrudes approximately 31 ft. (9.5 m)

• A 3/8" (9.5 mm) bead extrudes approximately 14 ft. (4.2 m)

## TECHNICAL DATA

### Typical Uncured Physical Properties:

<b>Color:</b>	White and Clear <b>Note:</b> Clear extrudes white but turns clear as it dries	<b>VOC Content:</b>	
<b>Appearance:</b>	Non-slumping paste	<b>White</b>	0.3% by weight 42 g/l CARB SCAQMD rule 1168
<b>Base:</b>	Elastomeric Acrylic/Urethane Latex polymers	<b>Clear</b>	0.4% by weight 63 g/l CARB SCAQMD rule 1168
<b>Odor:</b>	Mild acrylic odor	<b>Shelf Life:</b>	24 months from date of manufacture (unopened)
<b>Specific Gravity:</b>	1.267 White & Clear	<b>Lot Code</b>	YYDDD
<b>Viscosity:</b>	200,000 - 300,000 cp	<b>Explanation:</b>	YY= Last two digits of year of manufacture DDD= Day of manufacture based on 365 days in a year
<b>Solids by Weight:</b>	70%	<b>Example:</b>	14061 = 61 <sup>st</sup> day of 2014 = March 2, 2014

### Typical Application Properties:

<b>Application Temperature:</b>	Apply at ambient temperatures above 40°F (5°C) and below 100°F (38°C) Surface temperatures must be above 40°F (5°C) and free of frost		
<b>Tooling / Open Time:</b>	5-10 minutes*	At 73°F and 50% relative humidity	
<b>Tack-free Time:</b>	30-60 minutes*	At 73°F and 50% relative humidity	
<b>Cure Time:</b>	1-14 days or longer*	* Cure time is dependent on temperature, humidity, porosity of the substrates, and depth of sealant applied	
<b>Extrusion Rate:</b>	At 73°F: 35 lbs.	At 41°F: 56 lbs.	Based on 5/16" opening at 5 in/min
<b>Sag or Slump:</b>	0.1 inches maximum	ASTM D2202, at 120°F	

### Typical Cured Performance Properties:

<b>Color:</b>	White or Clear only	<b>Elongation at Break:</b>	
<b>Cured Form:</b>	Non-flammable solid	Initial - 5-day cure at 73°F:	1106 ± 317%    ASTM D412 Die C
<b>Service Temperature:</b>	-5°F (-21°C) to 170°F (77°C)	Full Cure - 30 days at 122°F:	468 ± 38%
<b>Paintable:</b>	Yes, after sealant is fully cured with latex paint or primer	<b>Tensile Strength at Break:</b>	
<b>Shrinkage:</b>	≤ 30%	Initial - 5-day cure at 73°F:	72 ± 33 psi    ASTM D412 Die C
<b>Hardness: Shore A</b>	24 ± 1    ASTM C661	Full Cure - 30 days at 122°F:	302 ± 5 psi
<b>Joint Movement:</b>	± 25%    ASTM C719	<b>% Recovery:</b>	
<b>180° Peel Adhesion:</b>	<b>ASTM C794</b>	Initial - 5-day cure at 73°F:	42 ± 6%    ASTM D412 Die C
Vinyl Siding:	19 ± 2.1 pli	Full Cure - 30 days at 122°F:	83%
Aluminum flashing (painted):	18.6 ± 5.5 pli	<b>Specifications:</b>	Meets the performance requirements of:
Fiber Cement (primed):	6.2 ± 2.1 pli	•	ASTM C920: Type S, Grade NS, Class 25, Use NT
Pine wood:	9.3 ± 2.7 pli	•	Federal Spec. TT-S-00230C, Type II
OSB (glossy side):	9.6 ± 1.1 pli		
PVC Trim:	5.3 ± 0.7 pli		

**Nail-Hole Filling:** **DO NOT** use as a nail hole filler or in touch-up applications on prefinished building materials. Follow prefinished cladding manufacturer's instructions for nail hole filling.



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## DIRECTIONS

**Tools Typically Required:** Utility knife and caulking gun. For best application results, OSI recommends the use of a high-quality caulking gun such as the Albion® B12 Cartridge Gun.

**Safety Precautions:** Wear gloves and wash hands after use.

**Surface Preparation:** The temperature of the product, the surfaces and the working area must be above 41°F (5°C). For best performance, apply sealant at 70°F (21°C). Ensure surfaces to be sealed are clean, dry, structurally sound and free of dust, frost, ice, snow, surface water, grease, oil, and other foreign contaminants. Concrete or block walls must be well cured, dry and free of any release agents. Ensure a proper drain plane design to avoid trapped water and or moisture. Ensure all cut ends of wood or fiber cement siding are properly sealed with primer or paint. It is the user's responsibility to test substrate compatibility and the adhesion of the sealant on a test joint before applying to the entire project.

**Masonry:** Concrete, stone, stucco and other masonry must be cleaned where necessary by grinding or wire brushing to expose a sound surface free of contamination and laitance. Concrete must be fully cured and free of release agents.

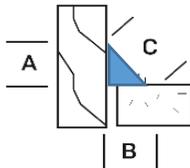
**Wood and painted wood:** New and weathered wood must be clean and structurally sound. Cut back weathered surfaces and dry rot until clean, sound wood is reached. Scrape away paint to bare wood. Any coating that cannot be removed must be tested to verify adhesion of the sealant. QUAD will adhere to most new and old, dry, oil-free wood.

**Metal:** Remove scale, rust, and residue from metal to expose a bright metal sheen by wire brushing. Remove any chemical residue, film/oils, and loose or incompatible coatings using the appropriate solvent. Any coating that cannot be removed must be tested to verify adhesion of the sealant. Remove any other coatings or finishes that could interfere with adhesion. An adhesion test is recommended for anodized aluminum or any questionable substrates.

**Joint Preparation:** The depth of the sealant joint should be one-half the width of the joint. The maximum depth is ½ inch (13 mm) and the minimum is ¼" (6 mm). The minimum recommended joint width is 1/4" inch and the maximum recommended joint width is 3/8" inches (10 mm). See table below.

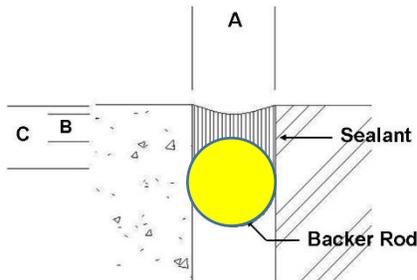
Joint Width (inches)	Sealant Depth @ Midpoint (inches)
1/4	1/4
1/2	1/4
3/8	1/2

Joint Width (mm)	Sealant Depth @ Midpoint (mm)
6	6
13	6
10	13



### Fillet Joint Design

- Dimension A and B must be a minimum of ¼"
- Dimension C must be a minimum of ⅜"



### Dynamic Joint Design

- Dimension A can be a minimum of ¼" but not greater ⅜" wide
- Dimension B must a minimum of ¼" in depth
- Dimension C can be a maximum depth of ½"

**NOTE:** Tooling is not necessary or recommended. DO NOT bridge the sealant or smear beyond the joint edges otherwise it may result in premature color fading on prefinished siding and trim materials. Sealant will form to a concave appearance when cured.



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If the depth of the joint exceeds 3/8" (9.5 mm) the use of a backer rod such as a Closed-Cell Backer-Rod is recommended. Where the joint depth does not permit the use of backer-rod, a bond breaker (polyethylene strip) is recommended to prevent three-sided adhesion. To maintain the recommended sealant depth, install backer-rod by compressing and rolling it into the joint channel without stretching it lengthwise. Closed-Cell Backer-Rod should be approximately 1/8" (3 mm) larger in diameter than the width of the joint to allow for compression. Do not prime or puncture the backer-rod as this may cause bubbling of the sealant to occur.

**General Preparation:** The temperature of the product, the surfaces and the working area should be between 40°F (5°C) and below 100°F (38°C). However, for best overall performance surface temperatures and ambient temperatures should be between 40°F and 70°F. It is recommended to store cartridge at room temperature at least 24 hours before use during extreme cold weather conditions. Dispense a 3/8" bead of sealant for optimal joint protection. For more information, refer to ASTM C1193 – Standard Guide for Use of Joint Sealants.

### **Application:**

Cut off tip of cartridge at a 45° angle to desired bead size (3/8" recommended). Maximum joint size should not exceed 3/8" (10 mm) x 1/2" (12.7 mm). Using caulking gun, apply sealant with steady pressure, forcing the sealant into the joint making sure the sealant "wets" the side surfaces of the joint. If the depth of the joint exceeds 3/8" (9.5 mm) the use of a backer rod is recommended. Avoid outdoor use when rain or freezing temperatures are expected within 24 hours. Tool if necessary, with a wet finger within 5 minutes after application. You must allow for product shrinkage so do not over tool or tool too thin. Doing so will have a negative impact on sealant integrity and performance. Sealant skins over in approximately 30 minutes depending on humidity and temperature. **Note: Clear H2U extrudes white and will turn clear as it dries**

In general, the ideal conditions for using sealants in exterior applications are during spring and fall seasons when outside temperatures are moderate. Maximum performance is achieved when adjoining substrates are at their equilibrium in terms of expansion/ contraction characteristics. Applying sealants when substrates are at maximum expansion or contraction, places extreme strain on the sealants ability to maintain a proper seal at all times during extreme weather changes.

### **Tips on Terminating Sealant Beads:**

- **Terminating Beads at the End of a Joint:** When terminating a bead at the end of a joint, first release dispensing gun pressure to prevent run-on by pressing the release trigger, then use a twist and pinch motion at a sharp angle to sever the bead. In the event of excess string formation, guide onto existing bead. DO NOT pull or smear the bead onto adjacent surfaces like cladding or trim materials. DO NOT TOOL on prefinished cladding or trim materials.
- **Terminating Beads that will be Continued:** When terminating a bead that is to be continued (i.e. at the end of a tube), first release dispensing gun pressure to prevent run-on by pressing the release trigger. Next, pinch-off the bead by pressing the nozzle onto the joint surface to cut-off the bead. DO NOT smear bead onto adjacent surfaces. This action will create a slight smear inside the joint. Cover this smear with the start of the next bead

**Do Not Encapsulate:** Do not encapsulate the sealant between two non-porous substrates. The sealant is a water-based and will not cure properly.

**Not Recommended as Nail Hole Filler:** Unless painting, it is not recommended as a nail hole filler or in touch-up applications on prefinished siding and trim materials. Doing so can result in an unsightly appearance. Follow prefinished cladding manufacturer's instructions for nail hole filling.

**Butt / Field Joint Applications:** Not recommended for field joint/butt joint applications on pre-finished siding and trim materials. Sealant is not recommended for joints less than 1/4" wide and 1/4" in depth. The reason being that joints less than 1/4" are too small to accommodate a sufficient amount of sealant in the joint to warrant long term durability. Joints smaller than 1/4" will become "maintenance" situations that need to be inspected regularly for premature failure. If the sealant is showing signs of degradation, remove sealant and apply fresh sealant to the joint. What is important to know is that all sealants will require maintenance and sometimes replacement, because of the effects of aging, insufficient sealant used, or because of poor joint design. When using prefinished claddings (i.e. siding and trim) please refer to manufacturer's instructions for proper installation.

**Control Joint Applications:** Maximum joint width should not exceed 3/8". For control joints apply sealant without tooling. During the curing time the sealant will form a concave shape (see Fig. 2) due to material shrinkage. Tooling is not recommended or necessary. Care must be taken to NOT allow or smear the sealant beyond the joint edges. Masking tape can be used to ensure a clean application and prevent smearing sealant on adjacent surfaces

**Commercial Applications:** For all commercial applications or applications not mentioned herein contact Henkel Technical support for review of intended use. Commercial applications may require a different type of sealant to be used

**Paintability:** Sealant is paintable when fully cured. Full cure may take 1-14 days or longer depending on ambient conditions and volume of sealant used. Latex paint is recommended. If using oil based/alkyd paint, a latex primer should be used first. It is the responsibility of the applicator to conduct on-site testing to determine compatibility and adhesion. (**NOTE:** Paints are more rigid than sealants and may crack, wrinkle or lose adhesion during sealant movement in extreme conditions). Visit OSITough.com for a complete color match listing.

**Clean-up:** Clean tools and uncured product residue immediately with warm, soapy water. Cured sealant may be carefully cut away with a sharp-edged tool.



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## STORAGE & DISPOSAL

**DAMAGED BY FREEZING.** Store in a cool, dry location at room temperature. For maximum shelf life store at 75°F (24°C). Take unwanted product to an approved household hazardous waste transfer facility. Hardened material may be disposed of as non-hazardous trash. .

## LABEL PRECAUTIONS

**CAUTION! MAY CAUSE EYE, SKIN AND RESPIRATORY IRRITATION.**

**CAUTION!** Contains ethylene glycol and mineral oil. Avoid contact with eyes and skin. Use with adequate ventilation. Do not swallow.

**FIRST AID:** If swallowed do not induce vomiting, call a physician or Poison Control center. For eye contact flush with water for 15 minutes. For skin contact, wash with soap and water. If affected by inhalation, get fresh air. **KEEP OUT OF THE REACH OF CHILDREN.**



Warning: Cancer and Reproductive Harm – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Refer to the Safety Data Sheet (SDS) for further information.

## DISCLAIMER

The information and recommendations contained herein are based on our research and are believed to be accurate, but no warranty, express or implied, is made or should be inferred. Henkel recommends purchasers/users should test the products to determine acceptable quality and suitability for the intended use. All adhesive/sealant applications should be tested under simulated or actual end use conditions to ensure the adhesive/sealant meets or exceeds all required project specifications. Since assembly conditions may be critical to adhesive/sealant performance, it is also recommended that testing be performed on specimens assembled under simulated or actual production conditions. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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[www.ositough.com](http://www.ositough.com)



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